CLAIMS

WHAT IS CLAIMED IS:

1. A method of diagnosing breast cancer in a subject, the method comprising comparing the expression pattern of CXCL9 or FLJ20174 nucleic acid or gene product in a sample from a subject with the expression pattern of CXCL9 or FLJ20174 nucleic acid or gene product in one or more samples from one or more non-cancerous tissues, wherein a difference in the expression pattern of CXCL9 or FLJ20174 in the samples is indicative of breast or ovarian cancer in the subject.

2. The method of claim 1 wherein the sample from the subject is derived from the same tissue type as the one or more samples from a non-cancerous tissue.

3. The method of claim 2 wherein the one or more samples from a non-cancerous tissue are also derived from the subject.

4. The method of claim 1 wherein the difference in the expression pattern is an up-regulation of the expression level of CXCL9 or FLJ20174 nucleic acid.

5. The method of claim 2, wherein the difference in the expression pattern is an up-regulated of at least two fold over the level of expression of CXCL9 or FLJ20174 nucleic acid in the one or more non-cancerous tissue samples.

6. The method of claim 1, wherein the sample comprises cells obtained from the subject.

7. The method of claim 4 wherein the cells are obtained from breast or ovarian tissue.

8. The method of claim 1, wherein the sample comprises serum, nipple aspirate or ductal fluid obtained from the subject.

9. The method of claim 1 wherein the expression pattern of CXCL9 or FLJ20174 is determined by detecting the presence in the sample of a nucleic acid comprising 30 or more contiguous nucleotides of SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4.

10. The method of claim 7, wherein the transcribed polynucleotide is an mRNA or hnRNA.

11. The method of claim 7, wherein the transcribed polynucleotide is a cDNA.

12. The method of claim 7, wherein the step of detecting further comprises amplifying the transcribed polynucleotide.

13. The method of claim 1, wherein the expression pattern CXCL9 or FLJ20174 in the samples is assessed by detecting the presence in the samples of a transcribed polynucleotide which specifically binds with SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4 or specifically binds with a portion of said transcribed polynucleotides, under stringent hybridization conditions.

14. The method of claim 1 wherein the difference in the expression pattern is an up-regulation of the expression level of CXCL9 or FLJ20174 gene product.

15. The method of claim 1, wherein the expression pattern of CXCL9 or FLJ20174 gene product is determined by detecting the presence in the samples of a protein, polypeptide or protein fragment of SEQ ID NO:2, SEQ ID NO:5 or SEQ ID NO:6.

16. The method of claim 13, wherein the presence of said protein, polypeptide or protein fragment is detected using a reagent which specifically binds with said protein, polypeptide or protein fragment.

17. The method of claim 14, wherein the reagent is selected from the group consisting of an antibody, an antibody derivative, and an antibody fragment.

18. A method of assessing the prognosis of a breast or ovarian cancer subject, the method comprising comparing the expression pattern of CXCL9 or FLJ20174 in a sample from a subject with the expression pattern of CXCL9 or FLJ20174 in samples from one or more subjects suffering from a known type of breast or ovarian cancer and determining the prognosis based on the comparison.

19. The method of claim 16 wherein the expression pattern is assessed by determining the level of expression.

20. The method of claim 16 wherein the expression pattern is assessed by comparing expression patterns of CXCL9 or FLJ20174 in different tissue samples from the same subject.

21. The method of claim 16 wherein the expression pattern is assessed by comparing the level of post-translational modification of CXCL9 or FLJ20174.

22. The method of claim 16, wherein the sample comprises cells obtained from the subject.

23. The method of claim 20 wherein the cells are obtained from breast or ovarian tissue.

24. The method of claim 16, wherein the sample comprises serum, nipple aspirate or ductal fluid obtained from the subject.

25. The method of claim 16, wherein the level of expression of CXCL9 or FLJ20174 is determined by detecting the presence in the sample of a nucleic acid comprising 10 or more contiguous nucleotides of SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4.

26. The method of claim 23, wherein the level of expression of said marker genes in the sample is assessed by detecting the presence in the sample of a transcribed polynucleotide encoded by SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4 or a portion of said transcribed polynucleotides.

27. The method of claim 23, wherein the transcribed polynucleotide is an mRNA or hnRNA.

28. The method of claim 23, wherein the transcribed polynucleotide is a cDNA.

29. The method of claim 23, wherein the step of detecting further comprises amplifying the transcribed polynucleotide.

30. The method of claim 16, wherein the level of expression of CXCL9 or FLJ20174 in the sample is assessed by detecting the presence in the sample of a transcribed polynucleotide which specifically binds with SEQ ID NO: 1, SEQ ID NO:3 or

SEQ ID NO:4 or specifically binds with a portion of said transcribed polynucleotides, under stringent hybridization conditions.

31. The method of claim 16, wherein the level of expression of CXCL9 or FLJ20174 is determined by detecting the presence in the sample of a protein, polypeptide or protein fragment of SEQ ID NO:2, SEQ ID NO:5 or SEQ ID NO:6.

32. The method of claim 29, wherein the presence of said protein, polypeptide or protein fragment is detected using a reagent which specifically binds with said protein, polypeptide or protein fragment.

33. The method of claim 30, wherein the reagent is selected from the group consisting of an antibody, an antibody derivative, and an antibody fragment

34. A method for monitoring the progression of breast or ovarian cancer in a subject, the method comprising:

    a. determining in a sample from a subject at a first point in time the expression pattern of CXCL9 or FLJ20174;

    b. repeating step a) at a subsequent point in time; and

    c. comparing the expression pattern of the CXCL9 or FLJ20174 determined in steps a) and b), and therefrom monitoring the progression of breast or ovarian cancer.

35. The method of claim 32 wherein the expression pattern is assessed by determining the level of expression.

36. The method of claim 32 wherein the expression pattern is assessed by comparing expression patterns of CXCL9 or FLJ20174 in different tissue samples from the same subject.

37. The method of claim 32 wherein the expression pattern is assessed by comparing the level of post-translational modification of CXCL9 or FLJ20174.

38. The method of claim 32 wherein the cells are obtained from breast or ovarian tissue.

39. The method of claim 33, wherein the sample comprises serum, nipple aspirate or ductal fluid obtained from the subject.

40. The method of claim 32, wherein between the first point in time and the subsequent point in time, the subject has undergone surgery to remove breast or ovarian tissue.

41. A method of assessing a test compound as an effector of breast or ovarian cancer in a subject, the method comprising

a. determining the expression pattern of CXCL9 or FLJ20174 in a first tissue sample from a subject;

b. exposing one or more second tissue samples from the same subject to one or more test compounds;

c. determining the expression pattern of CXCL9 or FLJ20174 in the one or more tissue samples that have been exposed to one or more test compounds; and

d. comparing the expression pattern of CXCL9 or FLJ20174 in the first and second tissue samples,

wherein a change in the expression pattern of CXCL9 or FLJ20174 in the second tissue sample versus the first tissue sample indicates that the test compound is an effector of breast or ovarian cancer in a subject.

42. The method of claim 39 wherein the first tissue sample exhibits an abnormal CXCL9 or FLJ20174 expression pattern and wherein the test compound is a therapeutic agent.

43. The method of claim 39 wherein the test compound is assessed to determine the breast or ovarian cell carcinogenic potential of the test compound.

44. A kit for diagnosis of breast or ovarian cancer, the kit comprising reagents for assessing the expression pattern of CXCL9 or FLJ20174 in a sample from a subject.

45. The kit of claim 42 wherein the kit comprises a reagent which specifically binds with a transcribed polynucleotide of SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4.

46. The kit of claim 42 wherein the kit comprises a reagent which specifically binds to a protein, polypeptide or protein fragment of SEQ ID NO:2, SEQ ID NO:5 or SEQ ID NO:6.

47. A kit for assessing the suitability of one or more test compounds for treating breast or ovarian cancer in a subject, the kit comprising: a) one or more test compounds; and b) a reagent for assessing the expression pattern of CXCL9 or FLJ20174.

48. The kit of claim 43 wherein the kit comprises a probe which specifically binds with a transcribed polynucleotide of SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4.

49. The kit of claim 43 wherein the kit comprises a probe which specifically binds to a protein, polypeptide or protein fragment of SEQ ID NO:2, SEQ ID NO:5 or SEQ ID NO:6.

50. A therapeutic agent for the treatment of breast or ovarian cancer comprising an agent that specifically binds to a CXCL9 or FLJ20174 nucleic acid or gene product.

51. The therapeutic agent of claim 50 wherein the agent specifically binds to a protein, polypeptide or protein fragment of SEQ ID NO:2, SEQ ID NO:5 or SEQ ID NO:6.

52. The therapeutic agent of claim 51 wherein the agent is an antibody, an antibody derivative, and an antibody fragment.

53. The therapeutic agent of claim 50 wherein the agent specifically binds with a polynucleotide of SEQ ID NO: 1, SEQ ID NO:3 or SEQ ID NO:4.

54. The therapeutic agent of claim 53 wherein the agent is an antisense nucleic acid.

55. The therapeutic agent of claim 53 wherein the agent is an RNA interference oligonucleotide.